in Nez Percés Co., Ida." (Coues, Proc. Acad. Nat. Sci. Phila. 50: 293 & 306. 1898). From a study of the Lewis and Clark journal for that day, it is possible to say only that the plant could not have been collected at any great distance from the camp.

Appended is a portion of the pertinent synonymy:

CLEMATIS HIRSUTISSIMA Pursh, Fl. Am. Sept. 2: 385. 1814. *Clematis Douglasii* Hook. Fl. Bor. Am. 1: 1, pl. 1. 1829.

ANEMONE NUTTALLIANA DC. Syst. 1: 193. 1818. *A. patens* var. *hirsutissima* Hitchcock, Trans. Acad. Sci. St. Louis 5: 482. 1891. *Pulsatilla hirsutissima* Britt. Ann. N. Y. Acad. Sci. 6: 217. 1891. *Anemone hirsutissima* MacMillan, Metasp. Minn. Valley, 239. 1892.

Missouri Botanical Garden,
St. Louis, Missouri,
April 6, 1942.

## FRANCIS RAMALEY

Francis Ramaley,[1] for forty years head of the Department of Biology of the University of Colorado and professor emeritus since 1939, died June 10, 1942. He was born in St. Paul, Minnesota, November 16, 1870. The University of Minnesota granted him his bachelor's and master's degrees in 1895 and 1896. He served as instructor in botany there for three years and then came to the University of Colorado in 1898 as assistant professor of biology. The following year, after receiving the degree of doctor of philosophy from Minnesota, he became professor and head of the Department of Biology at Colorado; from this time until his retirement, the untiring devotion and wise guidance which he gave the department as well as his insistence upon high standards were factors largely responsible for its growth and high reputation.

In 1904 Professor Ramaley made a trip around the world, spending several months in study at botanical gardens at Buitenzorg, Java, and Peradenyia, Ceylon; he also visited the gardens at Tokyo, Japan. This year of travel and study stimulated his natural interest in economic botany and resulted in valuable collections for the University Herbarium and Museum.

In addition to his heavy teaching load and administrative duties, Professor Ramaley served the University in many other ways. He was acting president in 1902, acting dean of the College of Pharmacy from 1917 to 1919, and acting dean of the Graduate School in 1929 and again from 1932 to 1934. Because of his sound judgment and clear insight, he was a valuable member of many important University committees. In line with his policy of encouraging high standards of scholarship, he aided in the organization of chapters of Phi Beta Kappa and Sigma Xi, while the University was still young. From the time of the establishment of the "University of Colorado Studies" in 1902, he was the editor, a position which he held until his death.

[1] See frontispiece.

His unfailing interest in research which continued even after the beginning of his final illness, resulted in the publication of about ninety scientific and educational papers and several books. Characterized by accuracy and clarity, his writings are interesting and intelligible to the layman as well as to the scientist. His publications give evidence of his broad interests which included not only his special field of botany, but human heredity and hygiene as well. While his earlier botanical papers indicated an interest in seedling anatomy, his most outstanding work was in the field of plant ecology. As early as 1899 he introduced a course in ecology at the University of Colorado. In 1940 when he was honored by being selected to give the annual research lecture at the University, it was natural and fitting that he should select as his subject "The Growth of a Science" in which he traced the history of ecology from the time of Aristotle to the present. This address which was printed in the "University of Colorado Studies" is of interest to all ecologists.

The University of Colorado Mountain Laboratory at Tolland, Colorado, was established by Professor Ramaley in 1909; for the following ten years while he served as director of this successful mountain laboratory, he published many ecological papers dealing with zonation, succession, and the distribution of plant communities in the montane and sub-alpine zones of this section of the Colorado Rockies. He first became interested in sand-hill vegetation while he was on the summer faculty of the University of California in 1917. After he returned home he began to study similar areas in Colorado. As a result of extensive field studies pursued over a number of years, a paper entitled "Sand-hill Vegetation of Northeastern Colorado" was published in "Ecological Monographs" in 1939. His last work, "Vegetation of the San Luis Valley in Southern Colorado," which was published in March of this year, is an extensive and important contribution based on numerous field trips taken to this interesting region at different seasons during the past fourteen years. His interest in physiological ecology was indicated by experimental work involving over one hundred species of plants which were supplied with supplemental artificial light. Two published bibliographies of day length and artificial illumination as affecting growth of seed plants and three other papers constitute his contributions to this field. "Plants Useful to Man" (with W. W. Robbins) and "Colorado Plant Life" are perhaps his best-known books. In the latter, which was written for the people of the state and published as part of the celebration of the Semicentennial of the University in 1927, he presents a study of the native trees, grasses and flowering herbs. Sections of this book indicate to some extent his deep appreciation of the beauties of the world of nature which, as he tells us in the preface, he learned to know and enjoy when as a child and youth he accompanied his father through woodland and over prairie in his native Minnesota.

The ninety-eight titles listed in the bibliography do not include numerous book reviews which appeared from time to time in "Ecology," "Science," "Torreya," "Botanical Gazette," and "American Journal of Botany"; articles in the "Biology News-Letter of the University of Colorado"; nor many abstracts which were published in the "Journal of the Colorado-Wyoming Academy of Science." During the past five years he learned to read Italian and since 1939 he has prepared approximately one hundred abstracts of articles from Italian botanical journals for publication in "Biological Abstracts."

A rare faculty for presenting material in a clear, forceful manner as well as the ability to summarize and emphasize important principles combined to make Professor Ramaley an outstanding teacher and lecturer. His interest in teaching is indicated by some ten publications dealing with the teaching of science or with some other phase of education. He believed that undergraduates should be given a liberal training without too much stress on their major field. As a member of the Council on Honors at the University and as its chairman at the time of his retirement, he urged students not to neglect broad fundamentals. He believed "that the specialist with a wide background of scientific knowledge will achieve the most." His own broad knowledge of the biological sciences and related fields enhanced the value of his instruction. While he expected his students to maintain high standards of accomplishment, his dealings with them were characterized by a kindly spirit of helpfulness, genuine interest in their progress and an unusual sense of fairness. Graduate students particularly prized his constructive criticism, his inspiring standards of thoroughness and accuracy, his unfailing patience and the generous giving of his time to their problems. They, as well as his colleagues, valued him as a counselor and a friend and admired his progressive and tolerant spirit, his unassuming modesty, and his thoughtful consideration of others.

Professor Ramaley was an active member of many scientific societies including the Botanical Society of America, American Society of Naturalists, Limnological Society, Society for Experimental Biology and Medicine, Colorado-Wyoming Academy of Science, and American Association for the Advancement of Science, serving as president of the Southwestern Division in 1930. He was a charter member of the Ecological Society of America, a group which elected him vice-president in 1931, and nine years later, president and botanical editor of "Ecology."

In Professor Ramaley were combined the qualities of an eminent scientist with those of an outstanding teacher and executive; above all, he was a tolerant and understanding friend. He is survived by his wife, Ethel Jackson Ramaley, and by four sons—Edward J., David, John D., and Francis.—Edna Louise Johnson, University of Colorado.

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## REVIEW

*The Flowering Plants and Ferns of Arizona.* By Thomas H. Kearney and Robert H. Peebles. United States Government Printing Office, Washington, D. C. 1942. $2.00.

The flora of Arizona was studied with great interest and effectiveness by Asa Gray, John Torrey, Sereno Watson, and George Engelmann, and the half-century- and century-old papers and reports of this group of great systematic botanists have been the most useful works for general identification of plants from all but certain segments of the State.

"The Flowering Plants and Ferns of Arizona" fills a demand of long standing for an up-to-date, comprehensive study of the flora of Arizona as a unit. The book is based upon a sound piece of research, and it is particularly valuable for inclusion and evaluation of the numerous papers on special groups published prior to the time the book went to press in 1940 and for its references to these papers. This manual should serve as the foundation and